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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Juergen Hess

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KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER

FRISTOE JR, JOHN K

ART UNIT

PAPER NUMBER

3753

MAIL DATE

DELIVERY MODE

10/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,422	Applicant(s) HESS ET AL.	
	Examiner JOHN K. FRISTOE JR	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/23/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 3/23/2006 is acknowledged by the examiner.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “damping disk is slotted” as recited in claim 21 **must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.**

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 12, 13, 18, 22, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,967,487 (Cook et al.). Cook et al. disclose a solenoid valve comprising a valve housing (24), at least one feed channel (25), at least one discharge channel (26), a valve member (86), a first switch position (figure 2), a second switch position (not shown), a magnet coil (42), a guide bushing (142), an expanded part (within element 40), an annular shoulder (below element 120), an armature (58), a damping disk (80) surrounding the armature (58) and situated between the annular shoulder (below element 120) and an adjacent face end (bottom end of element 142) of the guide bushing (142), wherein the armature (58) is axially movable in relation to the damping disk (80), wherein an external circumference of the damping disk (80) is situated at a radial distance from an inner wall (46 of the expanded part (within element 40) of the opening (within element 40), wherein the damping disk (58) has not interruption (figure 2), and wherein the solenoid valve (figure 2) is for at least on of a fluid-regulated heating system (figure 1).

5. Claims 12 and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,947,442 (Shurman et al.). Shurman et al. disclose a solenoid valve comprising a valve housing (54), at least one feed channel (20), at least one discharge channel (22), a valve member (44), a first switch position (figure 1), a second switch position (not shown), a magnet coil (60), a guide bushing (86), an expanded part (within element 54), an annular shoulder (below element

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79 in figure 3), an armature (64, 78), a damping disk (79) surrounding the armature (64, 78) and situated between the annular shoulder (below element 79 in figure 3) and an adjacent face end (end of element 86) of the guide bushing (86), wherein the damping disk (79) is to a limited degree axially movable between the annular shoulder (below element 79 in figure 3) and the adjacent face end (end of element 86) of the guide bushing (86), wherein the damping disk (79) is pressed against one of the face end of the guide bushing (86) and the annular shoulder (below element 79 in figure 3) by the fluid displaced by the armature (64, 78) over at least a part of the displacement of the armature (64, 78), and wherein an external circumference of the damping disk (79) is situated at a radial distance from an inner wall (inner wall surface of element 54) of the expanded part (within element 54) of the opening (within element 54).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 14, 15, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,967,487 (Cook et al.) in view of engineering expedient. Cook et al. disclose a solenoid valve comprising a valve housing (24), at least one feed channel (25), at least one discharge channel (26), a valve member (86), a first switch position (figure 2), a second switch position (not shown), a magnet coil (42), a guide bushing (142), an expanded part (within element 40), an annular shoulder (below element 120), an armature (58), a damping disk (80) surrounding the armature (58) and situated between the annular shoulder (below element 120)

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and an adjacent face end (bottom end of element 142) of the guide bushing (142), wherein the armature (58) is axially movable in relation to the damping disk (80), wherein an external circumference of the damping disk (80) is situated at a radial distance from an inner wall (46 of the expanded part (within element 40) of the opening (within element 40), wherein the damping disk (58) has not interruption (figure 2), and wherein the solenoid valve (figure 2) is for at least on of a fluid-regulated heating system (figure 1) but lacks an annular gap that is a certain distance. One of ordinary skill in the art of valve manufacture would create and damping disk having an inner clearance of certain distance that would let the armature move freely. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the solenoid valve of Cook et al. by making a damping disk having an inner clearance that is a certain distance that will let the armature move freely.

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,967,487 (Cook et al.) in view of U.S. Pat. No. 4,793,372 (Gauthler et al.). Cook et al. disclose a solenoid valve comprising a valve housing (24), at least one feed channel (25), at least one discharge channel (26), a valve member (86), a first switch position (figure 2), a second switch position (not shown), a magnet coil (42), a guide bushing (142), an expanded part (within element 40), an annular shoulder (below element 120), an armature (58), a damping disk (80) surrounding the armature (58) and situated between the annular shoulder (below element 120) and an adjacent face end (bottom end of element 142) of the guide bushing (142), wherein the armature (58) is axially movable in relation to the damping disk (80), wherein an external circumference of the damping disk (80) is situated at a radial distance from an inner wall (46 of the expanded part (within element 40) of the opening (within element 40), wherein the damping

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disk (58) has not interruption (figure 2), and wherein the solenoid valve (figure 2) is for at least on of a fluid-regulated heating system (figure 1) but lacks the damping disk made of bronze.

Gauthler et al. teach a valve assembly comprising a disk made of bronze (col. 2, lines 49-53. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the solenoid valve of Cook et al. by making the damping disk from bronze as taught by Gauthler et al. since using a known material will yield a predictable result.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,947,442 (Shurman et al.) in view of U.S. Pat. No. 4,793,372 (Gauthler et al.). Shurman et al. disclose a solenoid valve comprising a valve housing (54), at least one feed channel (20), at least one discharge channel (22), a valve member (44), a first switch position (figure 1), a second switch position (not shown), a magnet coil (60), a guide bushing (86), an expanded part (within element 54), an annular shoulder (below element 79 in figure 3), an armature (64, 78), a damping disk (79) surrounding the armature (64, 78) and situated between the annular shoulder (below element 79 in figure 3) and an adjacent face end (end of element 86) of the guide bushing (86), wherein the damping disk (79) is to a limited degree axially movable between the annular shoulder (below element 79 in figure 3) and the adjacent face end (end of element 86) of the guide bushing (86), wherein the damping disk (79) is pressed against one of the face end of the guide bushing (86) and the annular shoulder (below element 79 in figure 3) by the fluid displaced by the armature (64, 78) over at least a part of the displacement of the armature (64, 78), and wherein an external circumference of the damping disk (79) is situated at a radial distance from an inner wall (inner wall surface of element 54) of the expanded part (within element 54) of the opening (within element 54) but lacks the damping disk made of bronze. Gauthler et al. teach a

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valve assembly comprising a disk made of bronze (col. 2, lines 49-53. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the solenoid valve of Shurman et al. by making the damping disk from bronze as taught by Gauthler et al. since using a known material will yield a predictable result.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,967,487 (Cook et al.) in view of U.S. Pat. No. 5,632,628 (Wagner). Cook et al. disclose a solenoid valve comprising a valve housing (24), at least one feed channel (25), at least one discharge channel (26), a valve member (86), a first switch position (figure 2), a second switch position (not shown), a magnet coil (42), a guide bushing (142), an expanded part (within element 40), an annular shoulder (below element 120), an armature (58), a damping disk (80) surrounding the armature (58) and situated between the annular shoulder (below element 120) and an adjacent face end (bottom end of element 142) of the guide bushing (142), wherein the armature (58) is axially movable in relation to the damping disk (80), wherein an external circumference of the damping disk (80) is situated at a radial distance from an inner wall (46 of the expanded part (within element 40) of the opening (within element 40), wherein the damping disk (58) has not interruption (figure 2), and wherein the solenoid valve (figure 2) is for at least on of a fluid-regulated heating system (figure 1) but lacks the damping disk including polypropylene sulfide. Wagner teaches an assembly comprising a part made of polypropylene sulfide (col. 2, lines 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the solenoid assembly of Cook et al. by making the damping disk from polypropylene sulfide as taught by Wagner since using a known material will yield a predictable result.

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11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,947,442 (Shurman et al.) in view of U.S. Pat. No. 5,632,628 (Wagner). Shurman et al. disclose a solenoid valve comprising a valve housing (54), at least one feed channel (20), at least one discharge channel (22), a valve member (44), a first switch position (figure 1), a second switch position (not shown), a magnet coil (60), a guide bushing (86), an expanded part (within element 54), an annular shoulder (below element 79 in figure 3), an armature (64, 78), a damping disk (79) surrounding the armature (64, 78) and situated between the annular shoulder (below element 79 in figure 3) and an adjacent face end (end of element 86) of the guide bushing (86), wherein the damping disk (79) is to a limited degree axially movable between the annular shoulder (below element 79 in figure 3) and the adjacent face end (end of element 86) of the guide bushing (86), wherein the damping disk (79) is pressed against one of the face end of the guide bushing (86) and the annular shoulder (below element 79 in figure 3) by the fluid displaced by the armature (64, 78) over at least a part of the displacement of the armature (64, 78), and wherein an external circumference of the damping disk (79) is situated at a radial distance from an inner wall (inner wall surface of element 54) of the expanded part (within element 54) of the opening (within element 54) but lacks the damping disk including polypropylene sulfide. Wagner teaches an assembly comprising a part made of polypropylene sulfide (col. 2, lines 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the solenoid assembly of Cook et al. by making the damping disk from polypropylene sulfide as taught by Wagner since using a known material will yield a predictable result.

12. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,967,487 (Cook et al.) in view of U.S. Pat. No. 5,727,596 (Eminger). Cook et al. disclose a

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solenoid valve comprising a valve housing (24), at least one feed channel (25), at least one discharge channel (26), a valve member (86), a first switch position (figure 2), a second switch position (not shown), a magnet coil (42), a guide bushing (142), an expanded part (within element 40), an annular shoulder (below element 120), an armature (58), a damping disk (80) surrounding the armature (58) and situated between the annular shoulder (below element 120) and an adjacent face end (bottom end of element 142) of the guide bushing (142), wherein the armature (58) is axially movable in relation to the damping disk (80), wherein an external circumference of the damping disk (80) is situated at a radial distance from an inner wall (46 of the expanded part (within element 40) of the opening (within element 40), wherein the damping disk (58) has not interruption (figure 2), and wherein the solenoid valve (figure 2) is for at least on of a fluid-regulated heating system (figure 1) but lacks a slotted damping disk. Eminger teaches a valve assembly comprising a slotted (figure 2) damping disk (150). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the solenoid assembly of Cook et al. by making the damping disk slotted as taught by Eminger in order to make the disk easy to place within the assembly.

13. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,947,442 (Shurman et al.) in view of U.S. Pat. No. 5,727,596 (Eminger). Shurman et al. disclose a solenoid valve comprising a valve housing (54), at least one feed channel (20), at least one discharge channel (22), a valve member (44), a first switch position (figure 1), a second switch position (not shown), a magnet coil (60), a guide bushing (86), an expanded part (within element 54), an annular shoulder (below element 79 in figure 3), an armature (64, 78), a damping disk (79) surrounding the armature (64, 78) and situated between the annular shoulder (below

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element 79 in figure 3) and an adjacent face end (end of element 86) of the guide bushing (86), wherein the damping disk (79) is to a limited degree axially movable between the annular shoulder (below element 79 in figure 3) and the adjacent face end (end of element 86) of the guide bushing (86), wherein the damping disk (79) is pressed against one of the face end of the guide bushing (86) and the annular shoulder (below element 79 in figure 3) by the fluid displaced by the armature (64, 78) over at least a part of the displacement of the armature (64, 78), and wherein an external circumference of the damping disk (79) is situated at a radial distance from an inner wall (inner wall surface of element 54) of the expanded part (within element 54) of the opening (within element 54) but lacks a slotted damping disk. Eminger teaches a valve assembly comprising a slotted (figure 2) damping disk (150). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the solenoid assembly of Shurman et al. by making the damping disk slotted as taught by Eminger in order to make the disk easy to place within the assembly.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Fristoe Jr. whose telephone number is (571) 272-4926.

The examiner can normally be reached on Monday-Friday, 7:00 a.m.-4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/John K. Fristoe Jr./
John K. Fristoe Jr.
Primary Examiner
Art Unit 3753

JKF